KETTENBACH

From Broken to Beautiful Thanks to **Visalys CemCore**

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With the advent of CAD/CAM dentistry and in-house milling, my restorative practice has been transformed. Now, all our patients are demanding a metal-free, all-ceramic option for their dental restorations.

But that's easier said than done, as zirconia and lithium disilicate restorations come with a unique set of challenges. For example, the intaglio surface of zirconia restorations cannot be effectively bonded to, and short clinical crowns offer poor retention in these cases. Additionally, the smooth internal surface of the crown offers limited retention.

Fortunately, a solution has now emerged thanks to a new class of restorative cements available in the dental market. One of these products is Visalys CemCore, which is manufactured by Kettenbach Dental.

This dual-curing, self-adhesive luting composite has high flowability and hydrophobic properties, allowing it to achieve excellent adhesive strength and stability without swelling. It is also unique due to its Active-Connect-Technology. When used with the hydrophilic Visalys Tooth Primer, the integrated phase transfer leads to mixing at the interface between the Visalys CemCore and the primer—ensuring reliable polymerization.

Case 1: *"Save My Front Cap, Please!"*

Most restorative dentists have dealt with tooth fractures where the existing crown breaks off at the gingival margin, and this case is a prime example of that. The patient presented with tooth No. 8 fractured at the gumline (Figure 1) and supporting an existing porcelain crown (Figure 2). She was in quite a frenzy over it, and to add to the chaos, she had a huge presentation to give Monday morning and my office had her scheduled for late Friday afternoon. It was time for us to deliver!

The tooth had a previous root canal treatment, but the radiograph revealed that no post was ever placed. She told me, "Save my front cap, please!" My go-to solution in this case was Visalys CemCore.

Once my staff captured a periapical radiograph of the affected tooth, I confirmed full seating of the crown and that the marginal integrity was still intact. After preparation of the canal, I used a prefabricated metal post for this "salvage" procedure (Figure 3) and tried in the post to verify the longest supragingival length I could use while achieving full seating of the crown, as confirmed with a check x-ray (Figure 4).

Figure 1—Anterior view of tooth No. 8 fractured at the gum line

Figure 2—Porcelain crown with tooth fragment

Figure 3—Prefabricated metal post in tooth root

Figure 4—Radiograph with metal post

Figure 5—Anterior view of the tooth No. 8's recemented crown

Figure 6—Radiograph of tooth Nos. 8 and 9 both with existing posts and buildups

Figure 7—New splinted crowns

Figure 8—Broken buildup on tooth No. 9 with the pre-existing post still intact

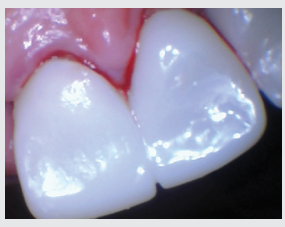

Figure 9A—Final cementation of tooth No. 8 and final core buildup and cementation for tooth No. 9

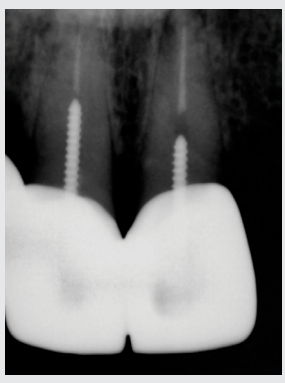

Figure 9B—Final cementation of tooth No. 8 and final core buildup and cementation for tooth No. 9

The cementation process was made less complex and more efficient by using Visalys CemCore. I conditioned both the canal and the occlusal portion of the root, followed by cleansing and disinfection with a cavity disinfectant containing benzalkonium chloride. After drying, I coated the canal and the remaining root with Visalys Tooth Primer. This activates the CemCore, even in a dark environment, which cures and strengthens the cemented post and core.

Ensuring Strong, Long-Lasting Outcomes

The Visalys Restorative Primer—a silane agent with MDP—was then used to coat the internal aspect and the margin of the ceramic crown. Using both in tandem ensures a strong, long-lasting core build-up, bond, and outcome.

After light-curing the bonding agent, Visalys CemCore was injected into the canal using an intraoral tip, while also coating the apical half of the post. Then, the post was inserted carefully into the canal. I seated the crown onto the tooth and confirmed again that it was fully seated.

With the crown off once more, I then added Visalys CemCore to the crown and placed it onto the tooth. I asked the patient to confirm comfortable closure and had her stay closed while I continued to hold the incisal of the crown in place to ensure full seating. I removed some excess with an applicator but waited until the Visalys CemCore initiated the set. I then light-cured from the facial and the palatal with a 2-mm curing light. The cement removed easily, and confirmation of the occlusal bite was verified with bite film (Figure 5).

In just an hour, we had gone from a panic-stricken patient to a relaxed, satisfied patient. She also had confidence knowing that our efforts provided her continued use of the existing crown for many more months and possibly years to come, thanks to Visalys CemCore.

Case 2: *Visalys CemCore to the Rescue...Again!*

In a separate case, another patient presented with failing teeth Nos. 8 and 9, both of which had previous large existing restorations, including root canal treatment and prefabricated post and core buildup (Figure 6). Upon removal of the existing crowns, both posts and buildups appeared to be intact and stable. The patient elected to proceed with new splinted crowns utilizing the current buildups (Figure 7). On the day of delivery, the patient walked in with a loose temp and—surprise, surprise—the buildup on tooth No. 9 had broken with the pre-existing post still intact (Figure 8).

After confirmation of marginal fit and occlusion, the patient elected to move forward with final cementation. In a situation like this, you want all the help and confidence you can muster to go to completion and assure the patient they will be fine in the long-term. Again, I reached for Visalys CemCore.

A Reliable Addition to the Dental Toolbox

I used my standard bonding technique and utilized the Visalys CemCore in the final cementation for tooth No. 8, and core buildup and cementation for tooth No. 9 (Figures 9A and 9B). Having the confidence that Visalys CemCore is strong and that it would cure and bond without light initiation was vital. The patient and I won on both counts.

These splinted crowns have withstood the test of time for over 18 months to date. The results continue to last and impress me. I am happy to have made Visalys CemCore an important addition to my toolbox.

GO-TO PRODUCT USED IN THESE CASES

VISALYS CEMCORE

Enabling both adhesive cementation and core buildup to be achieved with just a few components, Visalys CemCore features groundbreaking Active-Connect-Technology that allows for the optimal mixing of the somewhat hydrophobic cementation composite. It has a high adhesive strength without swelling, and it flows well into every clearance, yet displays a high degree of stability. Gentle application pressure ensures the degree of flow required when carrying out restoration, and releasing the pressure reverts Visalys CemCore back to its firm consistency, so excess material does not expand and is easy to remove after application.

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